

WHAT IS CLAIMED IS:

1. An image display apparatus comprising:
  - a current light emitting element that emits light with a brightness corresponding to a current flowing in the current light emitting element;
  - 5 a current source that supplies the current to the current light emitting element;
  - a driver element that includes at least first and second terminals and controls the current flowing into the current light emitting element from the current source based on a potential difference applied between
  - 10 the terminals;
  - a data line that supplies a potential to the first terminal;
  - a conductive member that is electrically connected to the second terminal; and
  - a threshold voltage obtaining unit that obtains a threshold
  - 15 voltage of the driver element based on the potential of the conductive member corresponding to an amount of charges supplied from the current source to the second terminal.
2. The image display apparatus according to claim 1, wherein
  - 20 the driver element becomes on-state by applying a potential higher than an estimated threshold voltage, between the first terminal and the second terminal upon starting to obtain the threshold voltage, and
  - the conductive member whose potential rises by accumulating
  - 25 charges supplied from the current source through the driver element

and the current light emitting element after the driver element becomes on-state.

3. The image display apparatus according to claim 1, wherein  
5 the driver element becomes off-state caused by rising of the potential of the conductive member up to a predetermined potential after the driver element becomes on-state, and  
the threshold voltage obtaining unit obtains a threshold voltage based on the potential of the conductive member after the driver  
10 element becomes off-state.

4. The image display apparatus according to claim 1, wherein  
the threshold voltage obtaining unit obtains a threshold voltage based on potentials of the conductive member at two or more different  
15 times after the driver element becomes on-state and before the driver element becomes off-state caused by rising of the potential of the conductive member up to a predetermined potential.

5. The image display apparatus according to claim 4, wherein  
20 the threshold voltage obtaining unit obtains a threshold voltage using a total sum of a capacitance of the second terminal and a capacitance of a capacitor connected to the conductive member and a potential applied to the first terminal, as parameters.

25 6. The image display apparatus according to claim 4, wherein

the threshold voltage obtaining unit obtains the threshold voltage, and obtains a mobility in a current passage portion of the driver element and a coefficient according to a shape of the current passage portion.

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7. The image display apparatus according to claim 1, further comprising:

a database in which potentials of the conductive member and threshold voltages of the driver element are associated with each other, wherein the threshold voltage obtaining unit obtains a threshold voltage by referring to the database based on the potentials of the conductive member at one or more times after the driver element becomes on-state.

15 8. The image display apparatus according to claim 1, wherein a potential is supplied to the first terminal upon displaying an image so that a voltage between the first terminal and the second terminal becomes a sum of the threshold voltage obtained by the threshold voltage obtaining unit and a data voltage corresponding to a display image.

20 9. The image display apparatus according to claim 6, wherein the data line supplies a potential to the first terminal so that a voltage between the first terminal and the second terminal becomes a potential obtained by multiplying a sum of the threshold voltage

obtained by the threshold voltage obtaining unit and a data voltage corresponding to the display image, by a value determined based on the mobility in the current passage portion of the driver element and the coefficient according to the shape of the current passage portion.

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10. The image display apparatus according to claim 1, further comprising:

a constant potential supply unit that supplies a substantially constant potential upon displaying an image; and

10 a switching unit that establishes a connection between the constant potential supply unit and the conductive member upon displaying the image, and isolates the constant potential supply unit from the conductive member upon obtaining the threshold voltage.

15 11. The image display apparatus according to claim 1, wherein the driver element is a thin film transistor, the first terminal corresponds to a gate electrode, the second terminal corresponds to a source electrode, and the driver element further includes a drain electrode.

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12. The image display apparatus according to claim 1, wherein the current light emitting element is an organic EL.